

A TAXONOMIC STUDY ON THE GENUS FALCONIUS BOLIVAR (ORTHOPTERA, SCELIMENIDAE) FROM CHINA

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Abstract The genus *Falconius* Bolivar (Orthoptera, Scelimenidae) is reviewed. The new species, *Falconius undatifemura* Zheng et Wang, sp. nov. is described. Type specimens are preserved in the Institute of Zoology, Shaanxi Normal University, Xi'an, China.

Key words Orthoptera, Scelimenidae, *Falconius* Bolivar, China.

The genus *Falconius* was erected by Bolivar in 1898. It is a small genus of Scelimenidae, distributed mainly in southeast Asia, including Indonesia, Malaysia and Burma. Three species were known from China. In this paper we describe a new species, *Falconius undatifemura* sp. nov., from Yunnan, China.

Falconius Bolivar, 1898

Falconius Bolivar, 1898. Ann. Mus. Stor. Nat. Genova, 39: 69.

Falconius Bolivar, Gunther, 1938. Mitt. Zool. Mus. Berlin, 23: 307–400.

Falconius Bolivar, Jiang and Zheng, 1998. Grasshoppers and Locusts from Guangxi. 280.

Falconius Bolivar, Zheng, 2005. Fauna of Tetrigoidea from Western China. 51–52.

Type species: *Falconius clavitarsis* (Bolivar), 1887

Body of small to moderate size, slender. Vertex wide; antennae thin and long, inserted up or down to the lower margin of eyes; hind process extending far beyond the top of hind femora; hind wing beyond or not beyond the top of hind process; posterior angles of lateral lobes of pronotum with spines or not; female: the third segment of posterior tarsus distinctly expanded.

Key to the species

- 1 (6) Posterior angles of lateral lobes of pronotum sickle-like, apice of spine curved forward
- 2 (3) Width of vertex 2 times width of eye; fore and medium femora without projection *F. guangxiensis* Zheng et Jiang
- 3 (2) Width of vertex 1.5 to 1.7 width of eye; fore and medium femora with projection
- 4 (5) Width of vertex 1.7 times width of eye; in profile, upper margin of pronotum with many projections; upper margin of anterior femora with two projections *F. undatifemura* Zheng et Wang, sp. nov.
- 5 (4) Width of vertex 1.5 times the width of an eye; in profile, upper margin of pronotum not very prominent; upper margin of

anterior femora with a projection, upper and lower margins of posterior femora uniform *F. hainanensis* Liang

6 (1) Posterior angles of lateral lobes of pronotum apices spine transverse *F. annulicornis* Liang

Falconius guangxiensis Zheng et Jiang, 1997

Falconius guangxiensis Zheng et Jiang, 1997. Entomotaxonomia, 19 (3): 164–165.

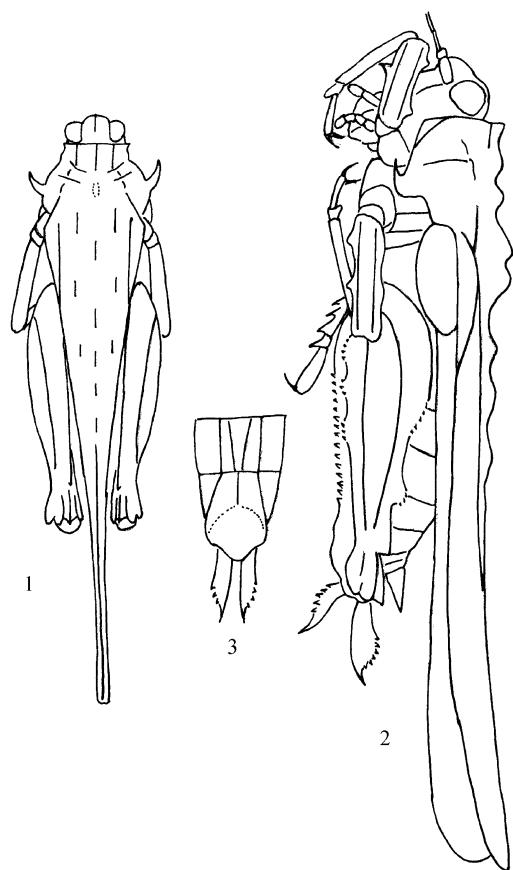
Falconius guangxiensis Zheng et Jiang, Zheng, 2005. Fauna of Tetrigoidea from Western China. 52–53.

Observed specimens: 1 ♂, Guangxi, Ningming, 1 June 1980; 1 ♂, Guangxi, Chongzuo, 11 Aug. 2005.

Distribution. Guangxi (Ningming, Chongzuo).

Falconius undatifemura Zheng et Wang, sp. nov. (Fig. 1–3)

Female. Body moderate sized or small, thin and long. Head not protruding above pronotum; vertex wider, its width 1.7 times to that of an eye, anterior margin of vertex straight, not protruding the anterior margin of eye, midkeel distinct; in profile, vertex and frontal ridge at a right angle, distinctly concave before eyes, distinctly protruding between antennae; width of frontal ridge sulcus equal to that of basal segment of antenna. Antenna filiform, extremely long and slender, 15 segments, length of middle segment 9–10 times its width, inserted between the lower margins of eyes. Eyes spherical, protrusive, lateral ocellus located in the middle of anterior margin of eye. Anterior margin of pronotum straight, median keel interrupted, in profile, upper margin sinuous frontward, straight backward; lateral keels parallel in prozona; humeral angle obtuse; with a pair of short longitudinal keels between shoulders, and two pairs of short longitudinal keels behind shoulders; posterior pronotal process extremely long and slender, reaching the top of hind



Figs 1-3. *Falconius undatifemura* Zheng et Wang, sp. nov. 1. Body, dorsal view. 2. Body, lateral view. 3. ♀, terminal of abdomen, ventral view.

tibia, extending beyond the top of hind femur by about 7 mm; posterior angles of lateral lobes of pronotum directed outward, apical spine sickle-shaped, curved forward, posterior margin of lateral lobes of pronotum with two concavities. Tegmina wide, oval, apex narrowly rounded; hind wings developed, almost reaching the top of posterior pronotal process. Upper margin of anterior femora with two projections, lower

margin with a sharp projection; upper margin of median femur sinuous, without projections, lower margin with two projections, width of median femur narrower than visible part of tegmina; upper and lower margins of hind femora obviously sinuous, the protuberant part of the wave with tiny teeth, pregenicula denticle and genicula denticle obtuse; lateral margins of hind tibiae expanded, with tiny teeth on margin; the first segment of hind tarsus longer than the length of second and third segment together, three pulvilli of the first segment of hind tarsus nearly equal in length, the third segment of hind tarsus obviously expanded, thicker than the first segment. Length of upper valve of ovipositor three times the width, both upper and lower valvula with tiny teeth. Subgenital plate longer than wide, middle of posterior margin convex.

Body yellowish brown, antennae black, between segments of antennae light; protruded part of median carina of pronotum black, forming a tier of black stripes; hind wings black; with two black transverse bands on anterior and middle femora and tibiae; the outside of posterior femora with two black transverse bands, posterior tibia black brown.

Male: unknown.

♀ Length of body 11.0-11.5 mm; length of antennae 6.0-6.1 mm; length of pronotum: 17.0-17.2 mm; length of hind femora 6.0-6.1 mm.

Holotype ♀, Yunnan, Jinghong, 19 July 2004, collected by NIU Yao. Paratype 1 ♀, same data as holotype.

This new species is allied to *Falconias bedoti* Bolivar, 1909 and *Falconius hainanensis* Liang, 2000, but can be differentiated by the characters in Table 1.

Table 1. Difference between *Falconius undatifemura* Zheng et Wang, sp. nov. and its allied species.

	<i>Falconius bedoti</i>	<i>Falconius undatifemura</i>	<i>Falconius hainanensis</i> Zheng et Wang, sp. nvo.
Ratio width of vertex/ width of eye	1.4	1.7	1.5
Eyes	Convex before the anterior margin of vertex	Not convex before the anterior margin of vertex	Convex before the anterior margin of vertex
Ratio width of tegmina/ width of middle femora	1.4	1.25	1.5
In profile, upper margin of pronotum	With many distinct projections before shoulders and on the shoulders	With many distinct projections	Slightly convex
Upper margin of anterior femora	With 2 projections	Sinuous	Sinuous
Upper and lower margins of hind femora	Uniform	Both sinuous	Uniform
Hind wing	Reaching the top of hind process	Not reaching the top of hind process	Reaching the top of hind process

Etymology. The specific name is derived from the Latin words *undat* and *femur*, referring to the undulate hind femora.

3 *Falconius hainanensis* Liang, 2000

Falconius hainanensis Liang, 2000. *Systematic and Faunistic Research on Chinese Insects*, 27: 28.

Specimens examined. 2 ♂♂, 1 ♀, Hainan, Jianfengling, 27 July 2002.

Distribution. Hainan (Jianfengling, Qiongshan, Limushan).

4 *Falconius annuliconus* Liang, 2000

Falconius annuliconus Liang, 2000. *Systematic and Faunistic Research on Chinese Insects*, 28: 29.

Specimens examined. 1 ♂, 1 ♀, Guangdong, Fengkai (Heishiding), 2002-08-17.

Distribution. Guangdong, Fengkai (Heishiding).

REFERENCES (参考文献)

Bolivar, I. 1887. Essai sur les acridiens de la tribu des Tetrigidae. *Ann.*

中国镰蚱属的分类研究(直翅目, 刺翼蚱科)

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摘要 系统地研究分布于中国镰蚱属种类共计有4种, 其中有1新种, 波股镰蚱 *Falconius undatifemura* Zheng et Wang, sp. nov.。文中记述每个种的引证和分布地区, 并附

关键词 直翅目, 刺翼蚱科, 镰蚱属, 分类学研究, 中国。

中图分类号 Q969.26

Soc. Ent. Belg., 31: 175-313.

Bdilvar, I. 1898. Contributions à l' étude des Acridiens especes de la faune Indo et Austror Malaisienne du Museo Civico di storia naturale de Genova. *Ann. Mus. Genova*, 39: 66-101.

Bdilvar, I. 1909. Nouvelles especes d' Acridiens du Musée de Geneve. *Madrid. Bol. Soc. Espan.*, 9: 393-408.

Günther, K. 1938. Revision der Acridiinae, I, Sectiones Tripetalocera, Discotettigiae, Lophotettigiae, Cleotratae, Bufonidae, Gladonotae, Scelimenae Verae. *Mitt. Zool. Mus. Berlin*, 23: 397-409.

Hancock, J. L. 1907. Studies of Tetriginae (Orthoptera) in the Oxford University Museum. *Trans. Soc. London*, 1908: 213-244.

Kirby, W. F. 1910. A Synonymic Catalogue of Orthoptera British Museum Catalogue of Orthoptera III. Orth. Part II. 1-678.

Liang, G Q. 2000. Three new species of Tetridoidea (Orthoptera) from China. *Systematic and Faunistic Research on Chinese Insects*. In: Zhang, Y-L (ed.). China Agriculture Press, Beijing. 26-30.

Zheng, Z M. 2005. Fauna of Tetridoidea from Western China. Science Press, Beijing. 51-54.

Zheng, Z M and Jiang, G F. 1997. Two new species of Scelimenidae and first description of female of *Bolivaritettix longzhouensis* (Orthoptera, Tetridoidea) from China. *Entomotaxonomia*, 19 (2): 164-168.

有分种检索表。模式标本保存于陕西师范大学动物研究所昆虫标本室。